

EXAMINER'S AMENDMENT

1. An examiner Amendment to the record appears below. Should the changes and/or additions be unacceptable to the applicant, an amendment may be filed as provided by 37 C.F.R 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the Issue Fee.
2. Authorization for this Examiner's Amendment was given in a telephone interview with Mr. Steven C. Tietsworth (Registration No. 59, 855) on March 26, 2010.
3. Please amend the claim as follows:
1 – 9, 16 and 29-32 (Cancelled).

10 (CURRENTLY AMENDED). A method of processing data in a stateful protocol processing system configured to process multiple flows of messages, said method comprising:

receiving a first plurality of messages of a first of said flows over a first logical channel, said first of said flows comporting with a first stateful protocol; establishing a first communication buffer associated with said first of said flows, said first communication buffer being of a first buffer size based upon information within said first plurality of messages;

deriving events of at least a first type and a second type from said first plurality of messages;

assigning a first protocol processing core to process said events of said first type in accordance with said first stateful protocol, said first protocol processing core being selected from among a plurality of protocol processing

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cores identified in a memory structure as being compatible with said events of said first type; and

assigning a second protocol processing core to process said events of said second type in accordance with said first stateful protocol;

receiving a second plurality of messages of a second of said flows over a second logical channel, said second of said flows comporting with a second stateful protocol; and

establishing a second communication buffer associated with said second of said flows, said second communication buffer being of a second buffer size based upon information with said second plurality of messages;

deriving events of at least a third type and a fourth type from said second plurality of messages;

~~receiving said first plurality of messages over a first logical channel;~~

defining a first class of events corresponding to at least said events of said first type and said events of said second type;

executing a first event-handling routine applicable to said first class of events;

~~receiving said second plurality of messages over a second logical channel;~~

defining a second class of events corresponding to at least said events of said third type and said events of said fourth type; and

executing a second event-handling routine applicable to said second class of events.

11 (Previously Presented). The method of claim 10 further including:

retrieving a first flow state characterizing said first of said flows;

partitioning said first flow state into a first workspace portion and a second workspace portion; and

assigning said first workspace portion to said first protocol processing core and said second workspace portion to said second protocol processing core.

12 (Original). The method of claim 11 further including:
retrieving a second flow state characterizing said second of said flows;
partitioning said second flow state into a third workspace portion and a fourth workspace portion; and
assigning said third workspace portion to said third protocol processing core and said fourth workspace portion to said fourth protocol processing core.

13 (Previously Presented). The method of claim 10 further including:
setting a first flow timer associated with said first of said flows;
generating a first timeout expiration event upon expiration of said first flow timer; and
forwarding said first timeout expiration event to a first selected protocol processing core.

14 (Original). The method of claim 13 further including:
setting a second flow timer associated with said second of said flows;
generating a second timeout expiration event upon expiration of said second flow timer; and
forwarding said second timeout expiration event to a second selected protocol processing core.

15 (Previously Presented). The method of claim 10 further including:
generating an additional event based upon a current state of said first of said flows;
retrieving a current flow state on the basis of said additional event; and
assigning a third protocol processing core, different from said first protocol processing core and second protocol processing core, to continue processing said events of said first type and said second type.

17 (Currently Amended). The method of claim 46 10 wherein said first communication buffer is comprised of a predetermined number of pages of equal size wherein one of said pages is allocated in connection with each of a plurality of allocation operations performed during communication of data associated with said first of said flows.

18 (CURRENTLY AMENDED). A stateful protocol processing apparatus configured to process multiple flows of messages, said apparatus comprising:

- an input processing unit disposed to receive a first plurality of messages of a first of said flows, said input processing unit deriving events of at least a first type and receive a second type from said first plurality of messages and a second plurality of messages of a second flow, said second of said flows comporting with a second stateful protocol;
- a first protocol processing core, said first protocol processing core being included among a plurality of protocol processing cores identified in a memory structure as being compatible with said events of said first type;
- a second protocol processing core; ~~and~~
- a dispatcher operative to assign said first protocol processing core to process said events of said first type in accordance with a first stateful protocol and to assign said second protocol processing core to process said events of said second type in accordance with said first stateful protocol;
- a first communication buffer associated with said first of said flows, said first communication buffer being of a first buffer size based upon information within said first plurality of messages;
- a second communication buffer associated with said second of said flows, said second communication buffer being of a second buffer size based upon information within said second plurality of messages;

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wherein the first plurality of messages is received over a first logical channel and the second plurality of messages is received over a second logical channel and wherein a second class of events corresponding to at least a set of events of a third type and an event of a fourth type is derived; and
an event-handler module configured to execute ~~executing~~ execute a first event-handling routine applicable to said first class of events; and ~~executing~~ execute a second event-handling routine applicable to said second class of events.

19 (Original). The apparatus of claim 18 wherein said input processing unit further:

receives a second plurality of messages of a second of said flows, said second of said flows comporting with a second stateful protocol; and
derives events of at least a third type and a fourth type from said second plurality of messages.

20 (Original). The apparatus of claim 19 wherein said dispatcher further:

assigns a third protocol processing core to process said events of said third type in accordance with said second stateful protocol; and
assigns a fourth protocol processing core to process said events of said fourth type in accordance with said second stateful protocol.

21 (Original). The apparatus of claim 18 wherein said dispatcher is further operative to generate a first local flow identification proxy based upon a first flow identification key extracted from said first plurality of messages.

22 (Original). The apparatus of claim 21 further including a lookup controller disposed to cooperate with said dispatcher in retrieving a first flow state characterizing said first of said flows using said first local flow identification proxy.

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23 (Original). The apparatus of claim 22 further including:
a first on-chip memory associated with said first protocol processing core;
and
a second on-chip memory associated with said second protocol processing core;
wherein said dispatcher assigns a first workspace portion of said first flow state to said first protocol processing core and a second workspace portion of said first flow state to said second protocol processing core, and wherein said lookup controller manages transfer of said first workspace portion to said first on-chip memory and said transfer of said second workspace portion to said second on-chip memory.

24 (Original). The apparatus of claim 18 further including a lookup controller configured to administer a first flow timer associated with said first of said flows, said lookup controller sending a first timeout expiration event to a first selected protocol processing core upon expiration of said first flow timer.

25 (Original). The apparatus of claim 18 wherein said first protocol processing core generates an additional event based upon a current state of said first of said flows, said apparatus further including a lookup controller disposed to cooperate with said dispatcher in retrieving a current flow state on the basis of said additional event.

26 (Original). The apparatus of claim 25 wherein said dispatcher assigns a third protocol processing core, different from said first protocol processing core and second protocol processing core, to continue processing said events of said first type and said second type.

27 (Original). The apparatus of claim 19 further including a socket memory controller configured to establish a first communication buffer associated

with said first of said flows, said first communication buffer being of a first buffer size based upon information within said first plurality of messages.

28 (Original). The apparatus of claim 27 wherein said socket memory controller is further configured to establish a second communication buffer associated with said second of said flows, said second communication buffer being of a second buffer size based upon information with said second plurality of messages.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: The prior art, taken singly or in combination, does not teach or disclose

"wherein the first plurality of messages is received over a first logical channel and the second plurality of messages is received over a second logical channel and wherein a second class of events corresponding to at least a set of events of a third type and an event of a fourth type is derived; executing a first event-handling routine applicable to said first class of events; and executing a second event-handling routine applicable to said second class of events.

a first communication buffer associated with said first of said flows, said first communication buffer being of a first buffer size based upon information within said first plurality of messages;

a second communication buffer associated with said second of said flows, said second communication buffer being of a second buffer size based upon information within said second plurality of messages"

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taken in context of the entire claim are allowable over prior art of record

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sargon N. Nano whose telephone number is (571) 272-4007. The examiner can normally be reached Monday - Friday 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571- 273 - 8300.

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/Sargon N Nano/
Examiner, Art Unit 2457

/Ramy M Osman/
Primary Examiner, Art Unit 2457